

Beam Drill Lines

Perfect Solutions for
Structural Steel Works by 10 Axis CNC



As a leader of the machinery industry, AKYAPAK unveils the technology it developed for structural steel market and delivers it from Turkey to the World. AKYAPAK, created AKDRILL brand for this sector, manufactures servo motor driven CNC drilling machine series called ADM for structural steel works.

AKDRILL ADM Drilling Machines offer high quality manufacturing solutions to the industries such as bridge and steel fabrication, shipyard, and various fields of construction and manufacturing. ADM series is capable of drilling holes standard 0,40" - 1,57" or larger diameter in H, I and U profiles.

ADM Beam Drill Lines consist of models with single or three independent spindles. The 3ADM three-spindle models are capable of drilling holes in profiles from three sides independently. The independent motion ability enables combined operations: While processing one side of the flange, it is possible to perform other operations (drilling, marking, tapping, milling, etc.) independently on the opposing flange and the web. The METEOR Single Spindle Model, on the other hand, offers the most space efficient and economic solution, maintaining high operational versatility.

The ADM Beam Drill Lines, equipped with high-quality components such as Siemens and Mitsubishi, become prominent for quality and reliability with Akyapak's strong after sales support.



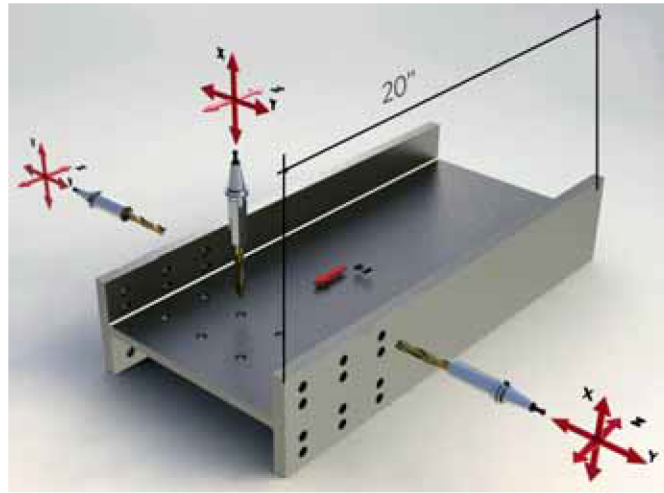
Slotting capability without moving the beam in 20".



Through 3 independent spindle units on 3 ADM model, the profile can be drilled from 3 sides at the same time.



» SUPERIOR INDEPENDENT SPINDLE **MOTION ABILITY IN 3 AXES**



- No need to drive the material during processing along 20"
- Maximized and combined processes
- Reduced processing time and high efficiency
- Three spindles with sub-axis



DRILLING



MILLING



TAPPING



COUNTERSINKING



LAYOUT MARKING

» SPINDLE **MOTORS**

- Powerful servo motors for high precision
- High-speed 22 kW - 30 HP Spindle Motor for each spindle

» MOVEMENTS

- Roller linear guidance system
- Servo motor driven ball screws

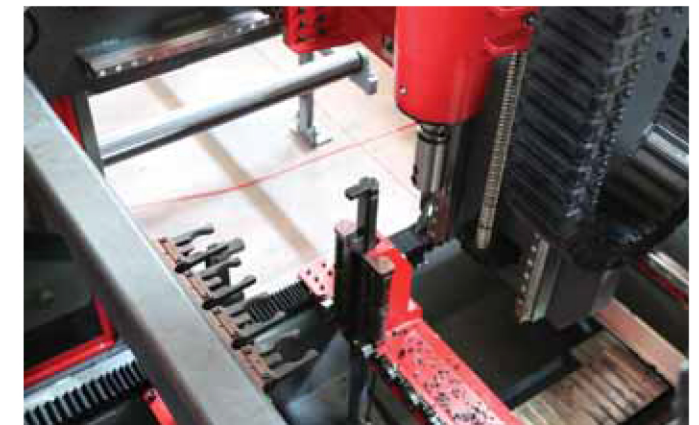


» SCRIBE **MARKING**

- Scribing on up to 4 surfaces
- Marking on the web bottom surface via optional underneath marking system

» AUTOMATIC TOOL CHANGING (ATC)

- 4-station tool changing unit for each spindle
- Eliminates manual tool change reducing downtime of the machine



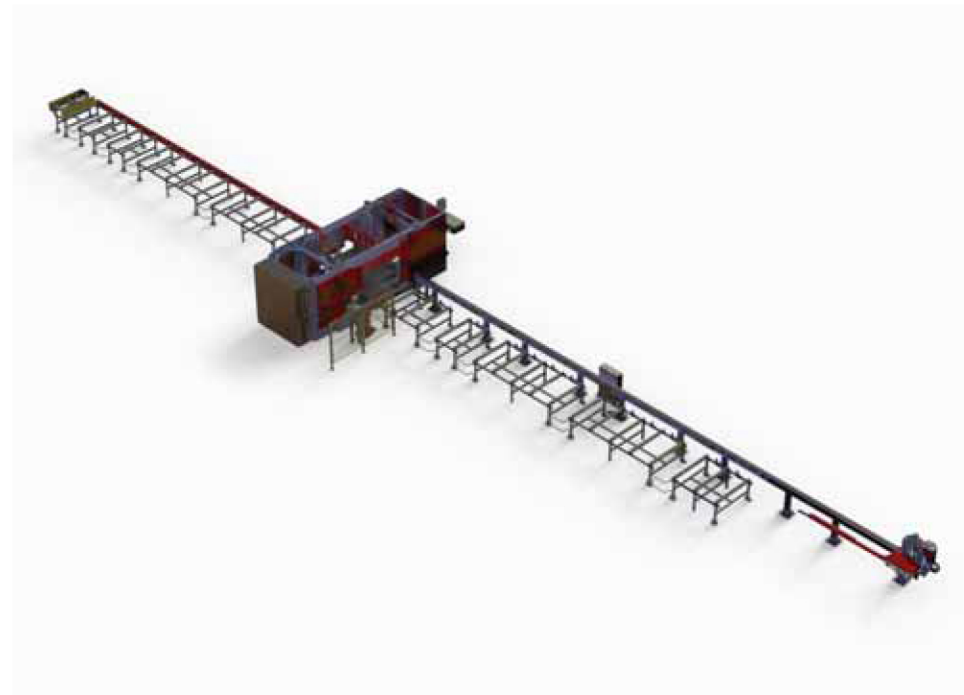
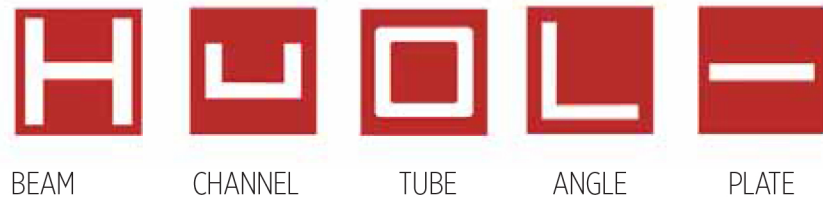


The 3ADM drill holes in profiles from three sides at the same time through three independent spindle units. Three automatic tool changing units are provided, one for each spindle and each unit has four stations for different tools.

The 3 ADM is equipped with sub-axis (z-axis) that enables independent control of spindles along 20” in the length of beam without repositioning it. After making a hole in the beam, there is no need to drive the beam to make another hole along the length of 20”. Each spindle can move independently in 3 axes while the beam is stationary. This feature reduces processing time considerably and increases efficiency.

Firstly, workpiece (profile, tube, angle, etc.) to be processed is placed on the infeed conveyor. The workpiece being held by the gripper of the feeding arm is driven into the drilling machine and the position of the workpiece is set to zero by laser light.

The processed workpiece is driven via the gripper of the feeding arm towards the miter bandsaw (optional). The sawing is performed in desired lengths and angles. The cut workpieces are driven towards the output conveyor.



BANDSAW INTEGRATION AND LAYOUT DESIGN

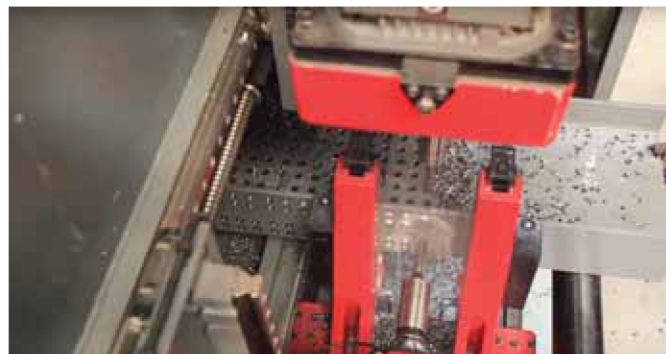
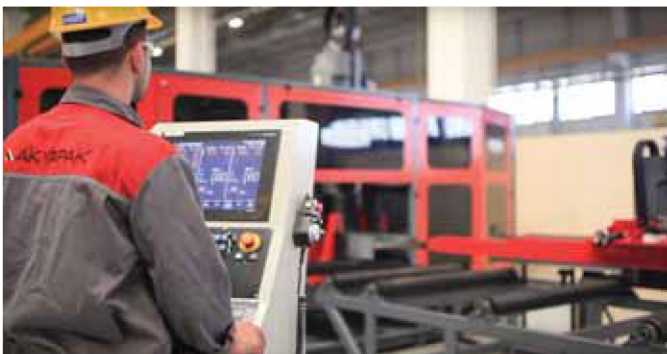
Akyapak offers various drill line configurations integrated with bandsaw. The bandsaws can be installed in tandem with Akyapak beam drilling machine while they can also be installed as separate lines. The machines in your shop will work in harmony with Akyapak’s modular transfer tables, conveyor groups and automation that enables continuous production. Akyapak provides you assistance to find the most suitable layout design in order to maximize your productivity and make the best out of your shop floor space.



» 3ADM ECO 7 AXIS THREE SPINDLE CNC DRILL LINE



All the systems of 3ADM Eco models are the same with 3ADM models. On the 3ADM, only z-axis is added to each spindle unit in addition to x and y axes. On 3ADM Eco, the material is driven to the next drilling position after one hole is drilled, while it is possible on 3ADM models to drill many holes in the feeding direction within 20" length without repositioning the material.



» Hydraulic Marking Unit (Optional)

The rotary and axial movements of the marking unit are driven by servo-motors. Only the blocking clamp and its table are driven hydraulically.

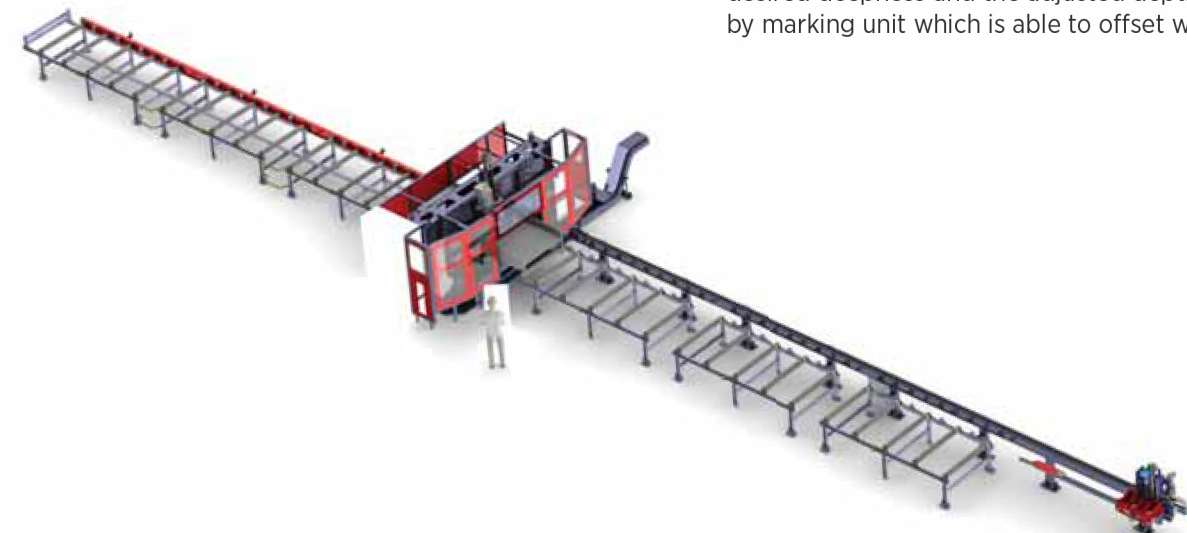
Marking can be performed in the zone of 2.3"x5.9"	Character Height	0.6"
	Character Depth	0.04-0.12"

There is no need to drive the profile during marking. The rotating disk has the ability of rotational and axial motion. The pressure of the rotating disk (marking head) is adjusted hydraulically.



» Scribe Marking Tool (Optional)

The Marking tool is held within the ATC (Automatic Tool Changing) system the same as the drill tools. It performs marking with 87 psi air pressure by rotating at 18.000 rpm via caribe tip. Marking depth can be adjusted to any desired deepness and the adjusted depth is guaranteed by marking unit which is able to offset within +/- 0.3".



ADM TECHNICAL SPECIFICATIONS	3ADM 1200	3ADM ECO
Control Panel	Mitsubishi/ Siemens	Mitsubishi/ Siemens
Number of Drilling Units - Vertical	1 Vertical	1 Vertical
Number of Drilling Units - Horizontal	2 Horizontal	2 Horizontal
Drilling diameter	3/8" - 1-1/2"	3/8" - 1-1/2"
Spindle Speed	50-3000 rpm	50-3000 rpm
Spindle Motor Power	30 HP / 103 lbf.ft	30 HP / 103 lbf.ft
Spindle torque	206 lbf.ft	206 lbf.ft
Motion Transmission System	Preloaded ball screws / nut system	Preloaded ball screws / nut system
Automatic Tool Changing Unit	For each spindle one ATC with 4 tools	For each spindle one ATC with 4 tools
Infeed Conveyor Length	40 feet	40 feet
Outfeed Conveyor Length	40 feet	40 feet
Central Lubrication System	Standard	Standard
Tool Cooling System	MQL	
Conveyor Carrying Capacity	670 lbs/ft	670 lbs/ft
Tapping Tool for each drilling axes (Optional)	M10 - M24 (with special set)	M10 - M24 (with special set)
Beam width	48"	48"
Beam Height	20"	20"
Tool Holder	BT 40 (internal coolant hole)	BT 40 (internal coolant hole)
Workpiece movement	Servomotor + planetary gear box	Servomotor + planetary gear box
Beam Section Measurement System	Optional	Optional
Miter Band Saw Integration	Optional	Optional
Weight	28.660 lbs	24.250 lbs
Machine Dimensions	7,9' x 23,0' x 10,5'	7,6' x 17,7' x 10,0'
Hydraulic Marking Unit	Optional	Optional
Scribe Marking	3 Side Standard, 4th is Optional	On one side
Chip Conveyor	Standard	Standard